

 **PIONEER®**

Service Manual



**ORDER NO.
CRT-425-0**

COMPONENT CAR STEREO GRAPHIC EQUALIZER

EQ-E01

EW

SPECIFICATIONS

Power source DC 14.4V (10.8~15.6V allowable)
Grounding system Negative type
Dimensions 150(W)×25(H)×148(D)mm
Weight 0.6kg
Equalization frequency 60Hz, 125Hz, 250Hz, 500Hz,
1kHz, 3.5kHz, 10kHz
Gain 0 dB
Equalization range ±12 dB
Frequency response 20~30,000Hz (±3 dB)
Distortion 0.06% (1kHz, 70mV)
Signal-to-noise ratio 85 dB (IEC-A network)
Input impedance 25kΩ
Output impedance 1.5kΩ
Max. output level 200mV/1kHz, 1% THD.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

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1. PARTS LOCATION

NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
 - ★ ★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.*

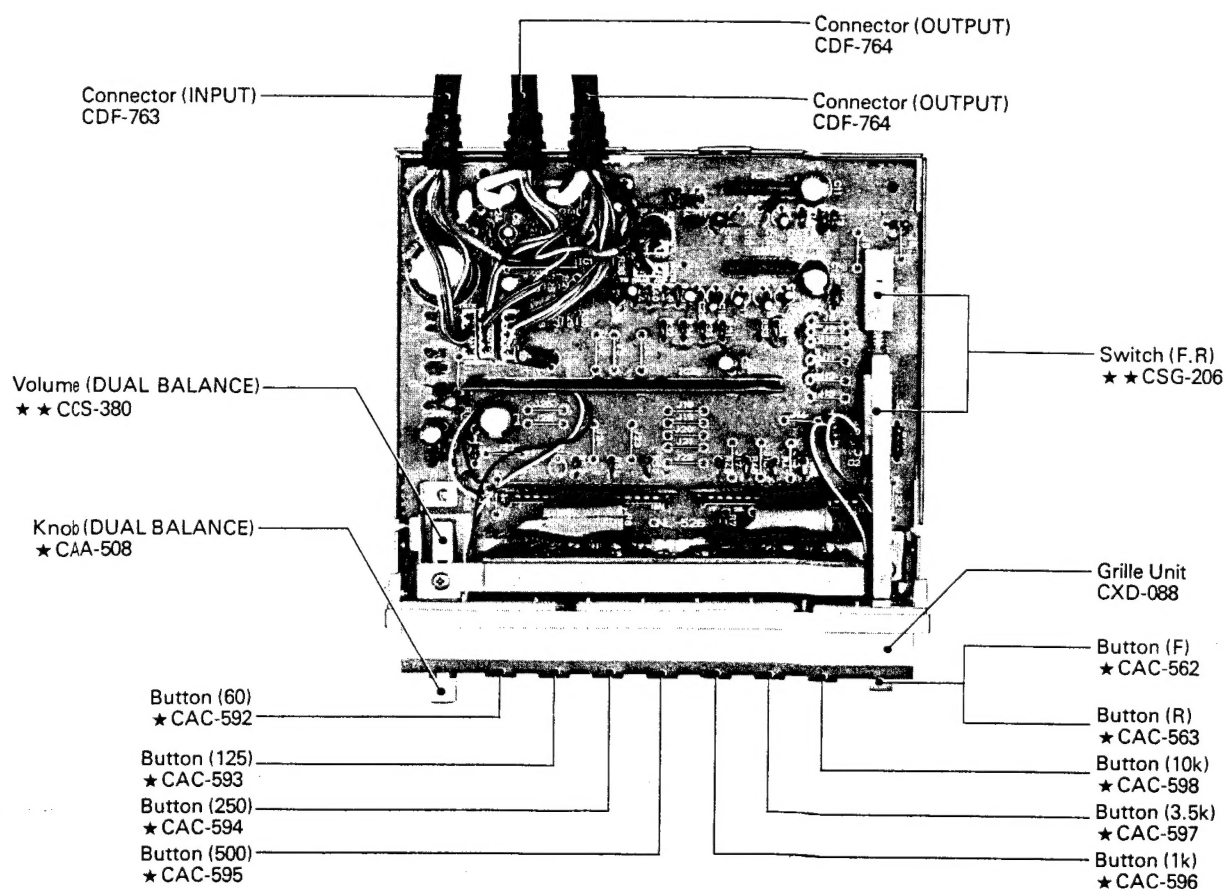


Fig. 1

QUESTIONNAIRE

MODEL _____

One Model per questionnaire

Dear Servicer,

Thank you for your cooperation in the post-sale service of Pioneer products.

This questionnaire is used as a tool to improve the serviceability of our products and service manuals. Please evaluate this model and service manual by answering the following questions. Your ideas may be realized in our future products. Your answers will be appreciated. Thank you.

PIONEER ELECTRONIC CORP.

T. Nakagawa, Manager, Service Section, International Division

1. SERVICING EVALUATION

Circle applicable number:

Good

Fair

Poor

a. Disassembly/Re-assembly:

1 2 3 *4 *5

b. Circuit Checks:

1 2 3 *4 *5

c. Replacement of Parts:

1 2 3 *4 *5

d. Adjustment (s):

1 2 3 *4 *5

* If (4) or (5) was circled, please be specific.

e. Your advice, opinion or ideas related to servicing this product.

2. SERVICE MANUAL EVALUATION

a. Circuit & Mechanism Description

b. Circuit Diagram

3. OTHER

Please describe other areas of servicing which you may find difficult.

Completed by :

Date :

Company Name :

Address :

City/State/Zip :

Please send this form filled to the distributor in your country.

2. NAME OF PARTS AND THEIR FUNCTIONS

① Dual Amp Balance Control

Press this button and it will come up (▲). Turn the button to the left to adjust volume of the front speakers or to the right to adjust the volume of the rear speakers. After making adjustments to a condition that you like, press the button again and it will go in (▼) to hold the setting.

② Equalizer Control

Press the top or bottom of this button to set the desired tone. Press the equalizer switch and the various level indicators will come on to let you know the equalizer is working.

③ Equalizer Control (Front)

④ Equalizer Control (Rear)

Press either switch to set the equalizer level for front or rear speakers. When the equalizer switch is ON, level indicators will come on to let you know the equalizer is working.

⑤ Level Indicator

When the equalizer is operating, the 7-level indicator is lit to display the level of each frequency.

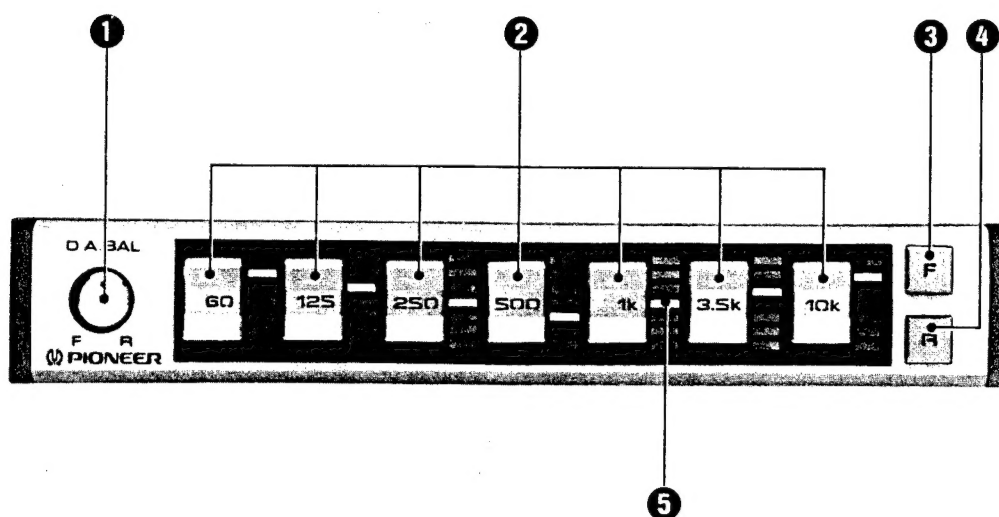


Fig. 2

3. CONNECTION

- Before making final connections, make temporary connections then operate the unit to check for any connecting cord problems.
- Refer to the main amp instruction manual for details on correct connection of speakers and power supply.
- Don't run the leads of the input cord of this unit and the main amp speaker leads close together. If you do, the deck or tuner will generate unwanted noise.
- If distance between the graphic equalizer and main amp is too far to make proper connections, please buy the optional exclusive extension cord for the Component Car Stereo.

2-Speaker System

- Do not connect the front panel cord for a 2-speaker system.

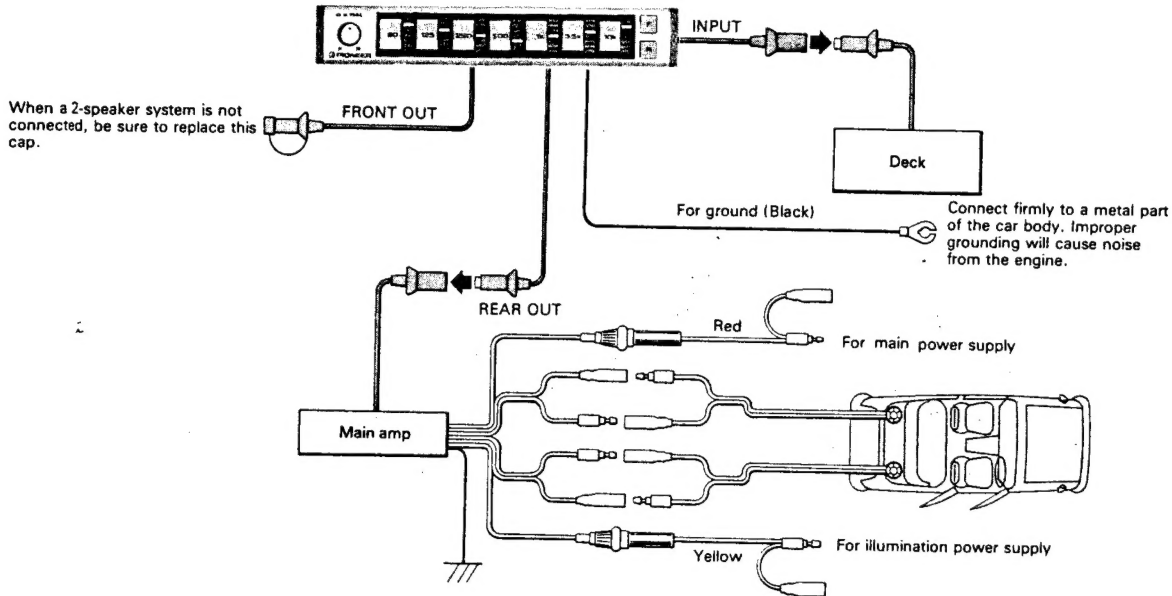


Fig. 3

4-Speaker System

- When using two main amps, use the accessory power supply connector and connect the cord to the over 10A accessory connector. (Be sure that both amps are connected to a common ground.)

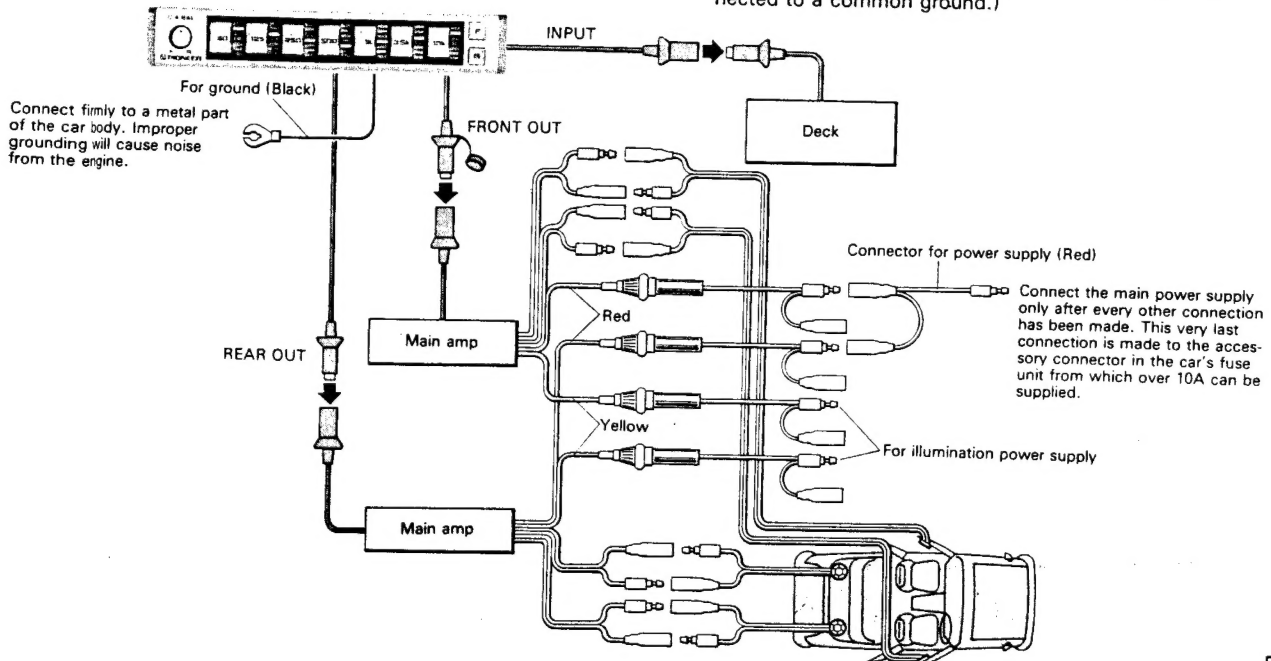


Fig. 4

4. CIRCUIT DESCRIPTION

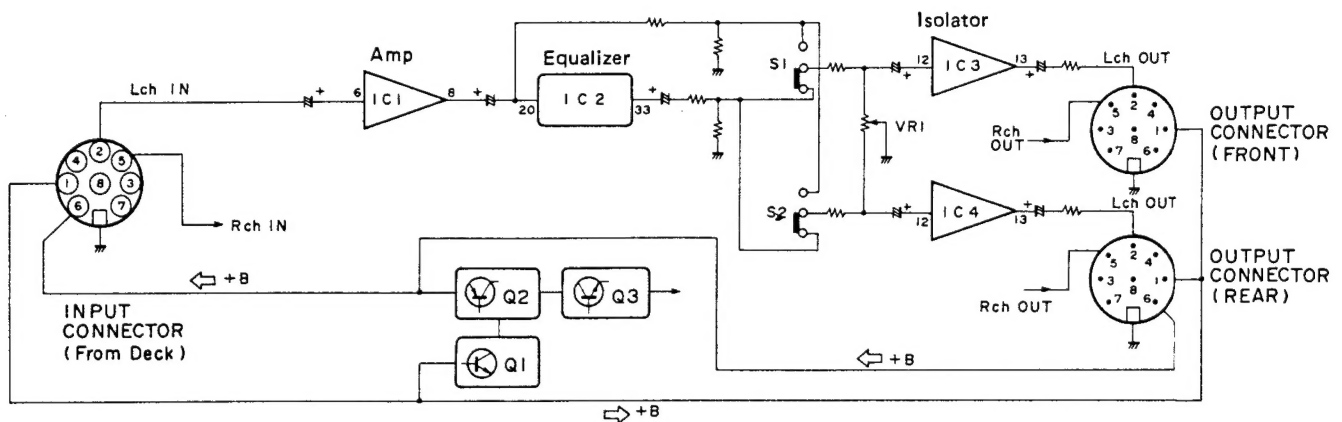
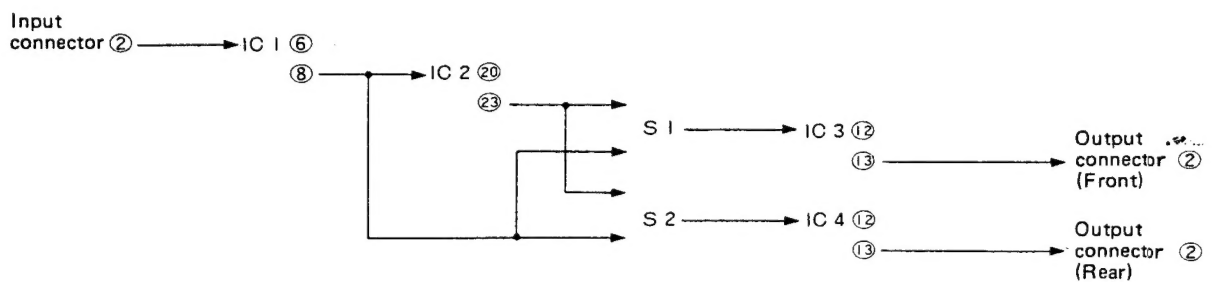


Fig. 5

• Audio signal path (L channel)



• Symbols explanation

Symbols	Description
	Division and synthesis
IC1 ⑥ ⑧→	A signal will be input to pin ⑥ of IC1 and a signal will be output from pin ⑧.

Fig. 6

5. LEVEL DIAGRAM

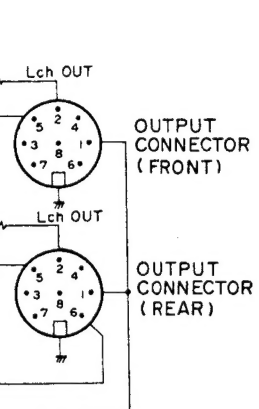


Fig. 5

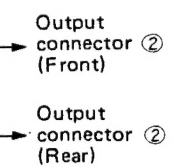
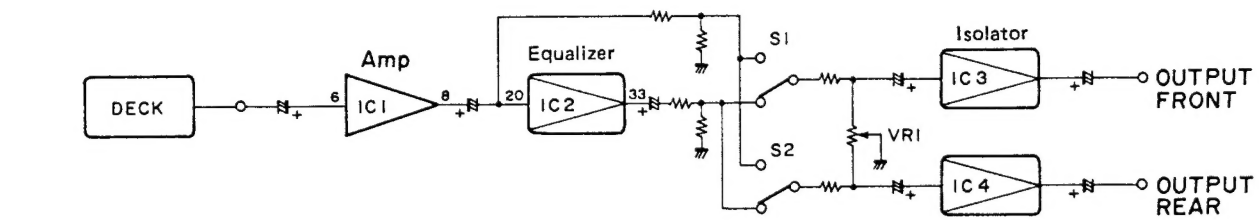
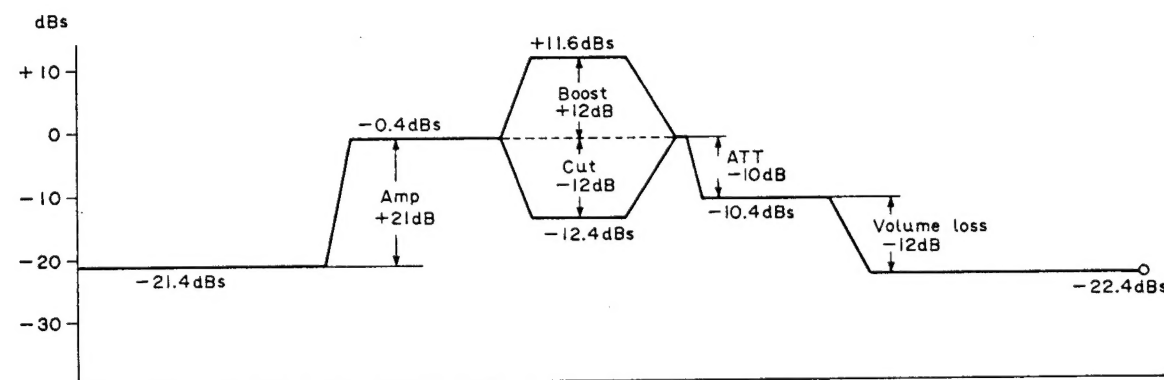
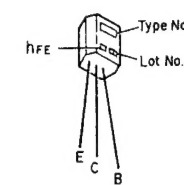


Fig. 6

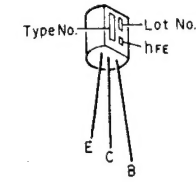
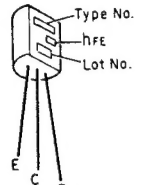


• IC s and Transistors

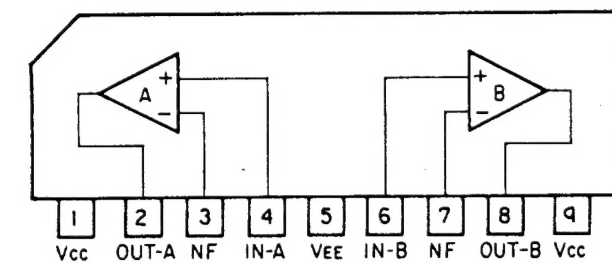
2SC2458



2SC1815

2SB647A
2SD667

IC1: TA75558S



IC2: KHA106A

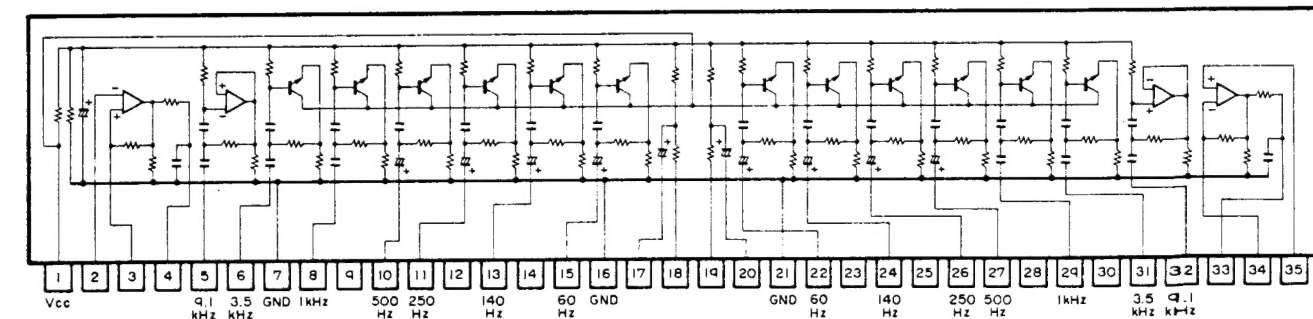
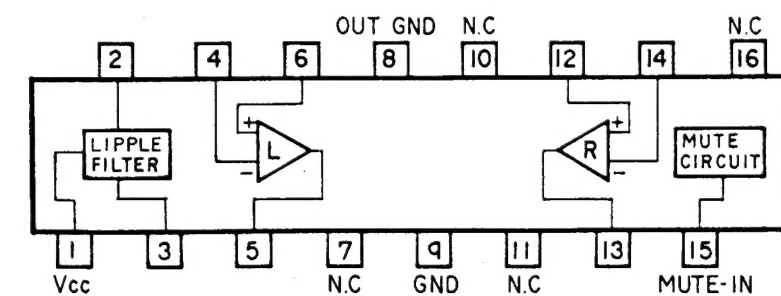


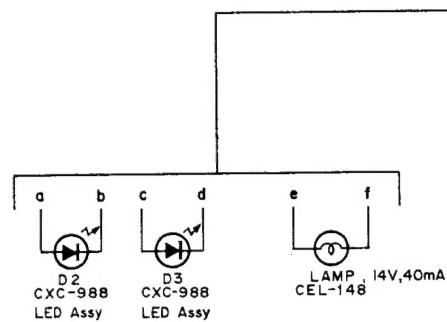
Fig. 7

IC3, IC4: PA2014



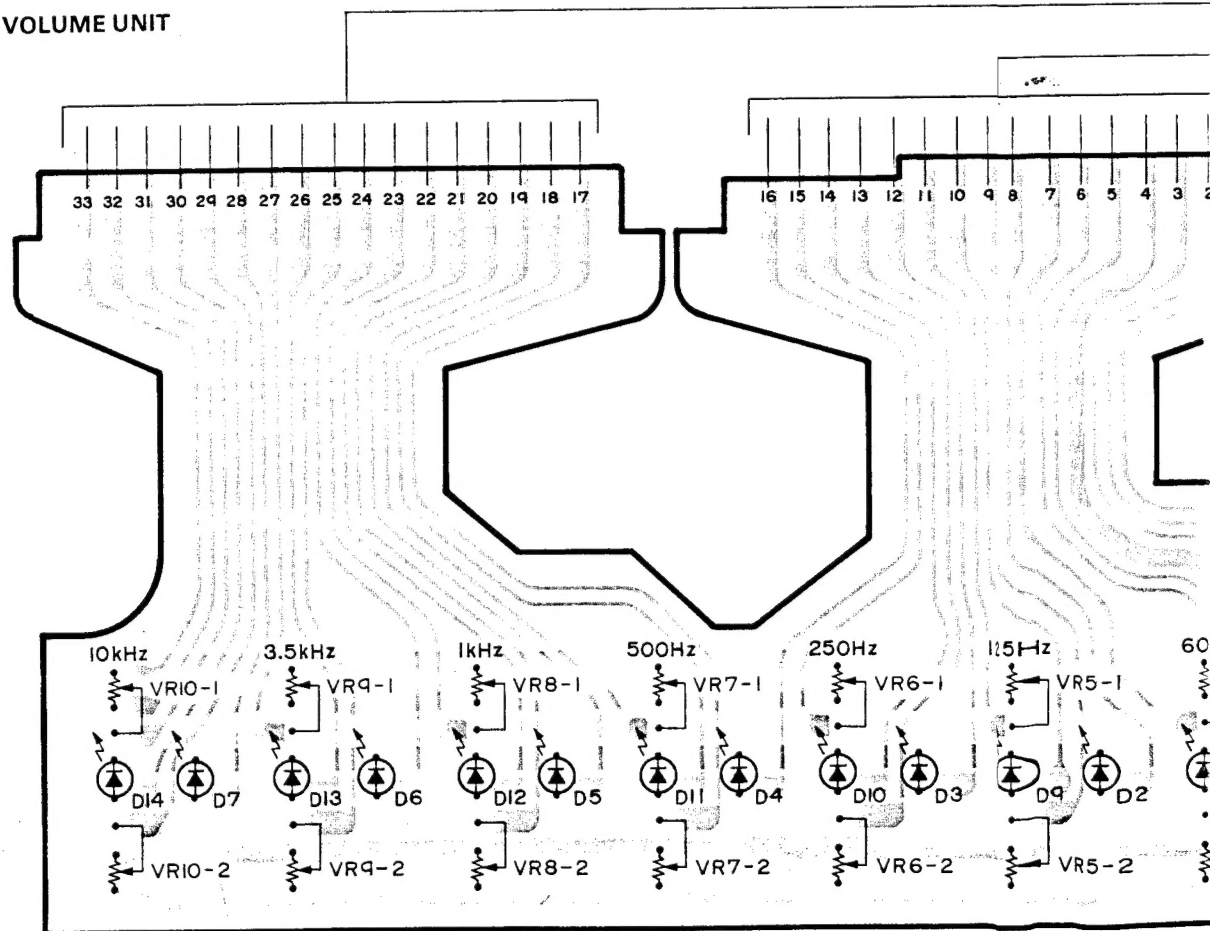
6. CONNECTION DIAGRAM

A



B

VOLUME UNIT



D

D1 ~ D7 : LED (GREEN)

D8 ~ D14 : LED (RED)

VR4 ~ VR10 : VOLUME

4

5

6

7

8

9

IC, Q

Q3

IC2

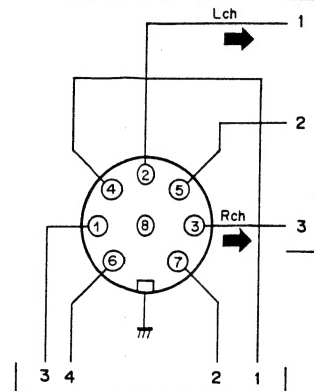
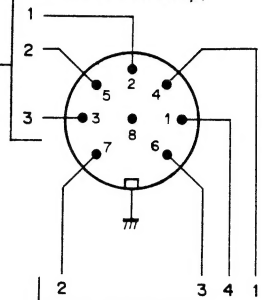
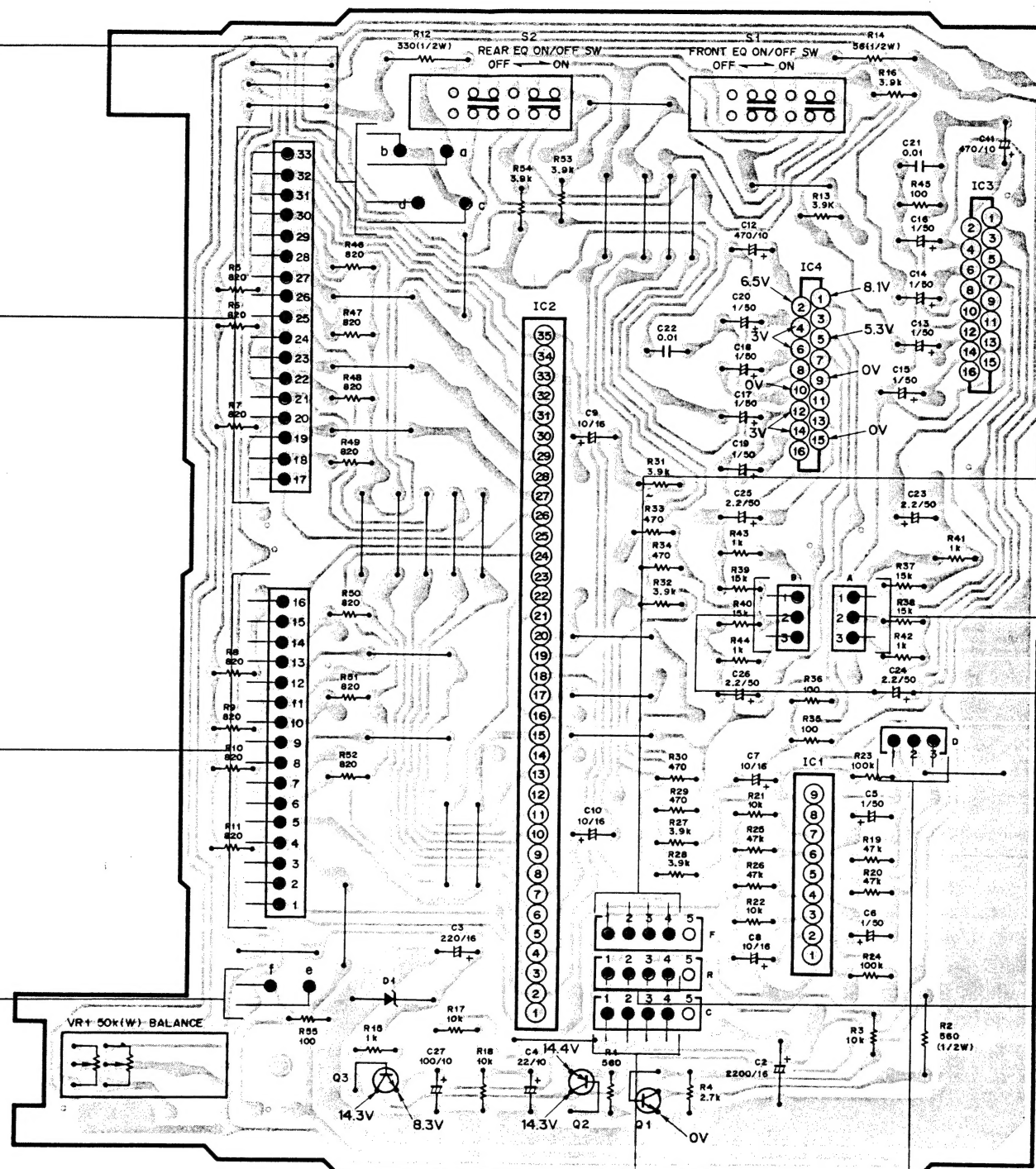
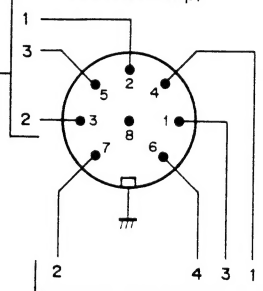
Q2

Q1

IC4 IC1

IC3

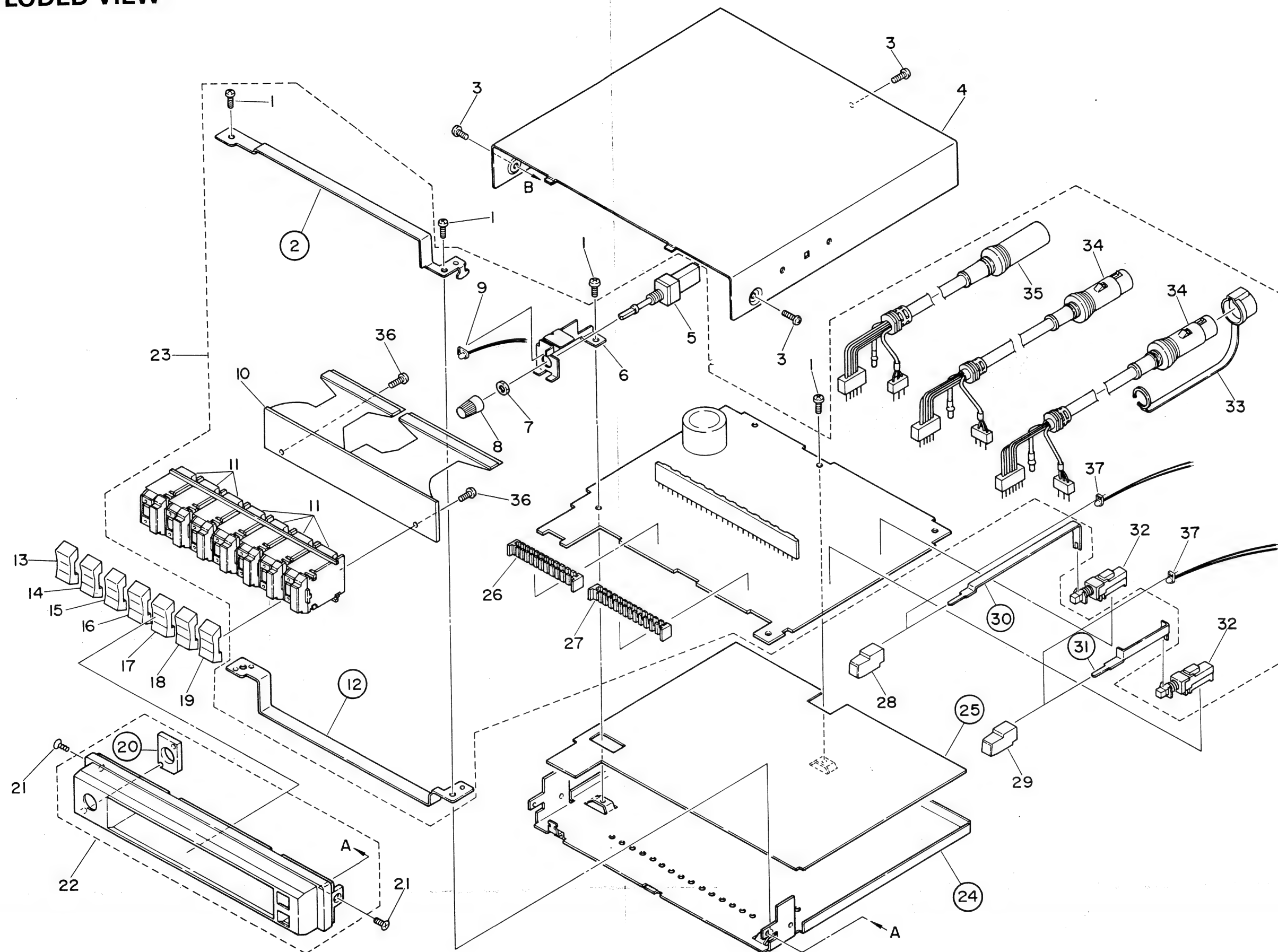
EQUALIZER UNIT

INPUT CONNECTOR
(From Cassette Deck)OUTPUT CONNECTOR
(To Front Amp)OUTPUT CONNECTOR
(To Rear Amp)IC1 : TA75558S
IC2 : KHA106A
IC3,4 : PA2014Q1 : 2SC2458
Q2 : 2SB647A or 2SB647
Q3 : 2SD667D1 : RD9R1EB3
D2,3 : CXC-988

LUME

Fig. 8

8. EXPLODED VIEW



7. SCHEMATIC CIRCUIT DIAGRAM

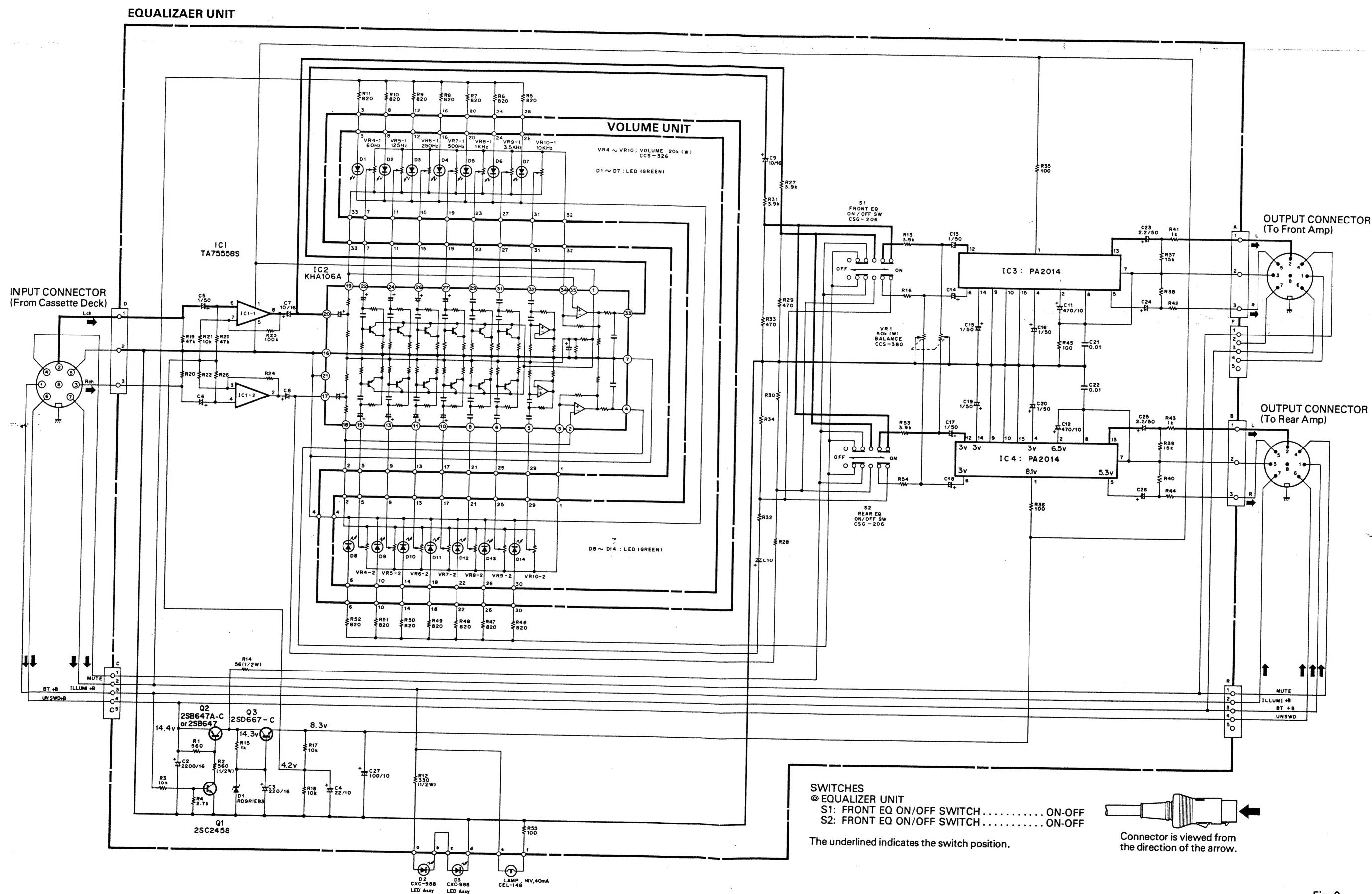


Fig. 9

9. ELECTRICAL PARTS LIST

NOTE:

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56×10^1	561	.....	RD1/4PS	5 6 1	J
47kΩ	47×10^3	473	.....	RD1/4PS	4 7 3	J
0.5Ω	0R5		.....	RN2H	0 R 5	K
1Ω	010		.....	RS1P	0 1 0	K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	562×10^1	RN1/4SR	5 6 2 1	F
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- Parts whose parts numbers are omitted are subject to being not supplied.

Equalizer Unit

MISCELLANEOUS

Mark	Symbol & Description	Part No.
★ ★	IC1	TA75558S
★ ★	IC2	KHA106A
★ ★	IC3, IC4	PA2014
★ ★	Q1	2SC2458
★ ★	Q2	2SB647 or
		2SB647A-C
★ ★	Q3	2SD667
★	D1	RD9R1EB3
★ ★	S1, S2	CSG-206
★ ★	VR1	CCS-380
	Switch (F, R)	
	Volume, 50 kΩ(W)	
	(DUAL BALANCE)	

RESISTORS

Mark	Symbol & Description	Part No.
	R1, R3 — R11, R13, R15 — R55	RD1/4VM□□□J
	R2, R12, R14	RS1/2P□□□JL

CAPACITORS

Mark	Symbol & Description	Part No.
	C2	2200 μF/16V
	C3	CCH-058
	C4	CEA221M16L2
	C5, C6, C13 — C20	CEA220M16L2
	C7 — C10	CEA010M50L2
		CEA100M16L2
	C11, C12	CEA471M10L2
	C21, C22	CQMA103M50
	C23 — C26	CEA2R2M50L2
	C27	CEA101M10L2

Volume Unit

Mark	Symbol & Description	Part No.
★ ★	VR4 — VR10	Volume, 20 k(W)
	(EQUALIZER)	CCS-326

Miscellaneous Parts List

Mark	Symbol & Description	Part No.
★ ★	IL1	Lamp 14V, 40 mA
	D2, D3	LED Assy
		CEL-148
		CXC-988

10. PACKING METHOD

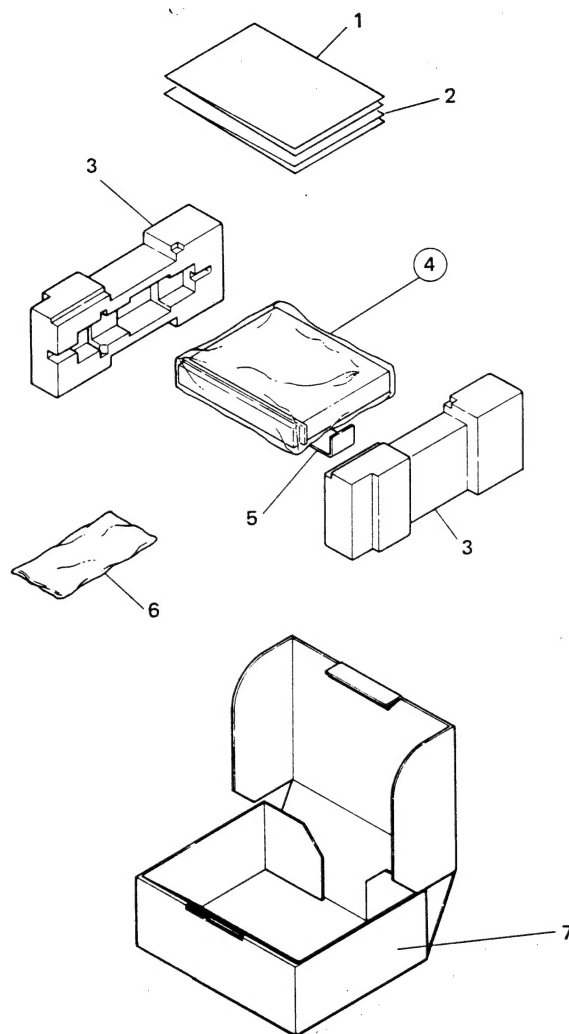


Fig. 11

• Parts List

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1.	CRD-486	Owner's Manual (English, French, German, Spanish)		6-1.	CDE-393	Connector
	2.	CRD-487	Owner's Manual (Swedish, Norwegian, Dutch, Italian)		6-2.	CDE-437	Cord
	3.	CHD-420	Styroform (1 set pair)		6-3.	CEA-901	Screw Kit
	4.		Cover		6-3-1.	B70-056-A	Nut (M5)
	5.	CNB-783	Mounting Bracket		6-3-2.	CBA-101	Screw (M4×6)
	6.	CEA-902	Accessory Kit		6-3-3.	CBA-102	Screw (M5×16)
					7.	CHD-638	Carton

• Parts List

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- Parts whose parts numbers are omitted are subject to being not supplied.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1.	BMZ26P040FMC	Screw		20.		Lens
	2.		Bracket		21.	CMZ26P050FMC	Screw
	3.	CBA-122	Screw		22.	CXD-088	Grille Unit
	4.	CNB-848	Case		23.	CWK-338	Equalizer Assy
★ ★	5.	CCS-380	Volume 50 kΩ(W)		24.		Chassis
			(DUAL BALANCE)		25.		Insulator
	6.	CNG-122	Bracket		26.	CKS-338	Connector (16P)
	7.	CBA-066	Nut (M6)		27.	CKS-339	Connector (17P)
★	8.	CAA-508	Knob (DUAL BALANCE)	★	28.	CAC-562	Button (F)
★ ★	9.	CEL-148	Lamp 14V, 40 mA	★	29.	CAC-563	Button (R)
	10.	CNL-331	P.C. Board		30.		Lever
★ ★	11.	CCS-326	Volume, 20 kΩ(W) (EQUALIZER)		31.		Lever
	12.		Bracket	★ ★	32.	CSG-206	Switch (F, R)
★	13.	CAC-592	Button (60)		33.	CNW-770	Cap
★	14.	CAC-593	Button (125)		34.	CDF-764	Connector (OUTPUT)
★	15.	CAC-594	Button (250)		35.	CDF-763	Connector (INPUT)
★	16.	CAC-595	Button (500)		36.	PTZ20P040FMC	Screw
★	17.	CAC-596	Button (1k)		37.	CXC-988	LED Assy
★	18.	CAC-597	Button (3.5k)				
★	19.	CAC-598	Button (10k)				